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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,956	12/03/2004	Takeshi Koyama	396.4449X00	8624
20457 7590 08/20/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER WOOD, ELLEN S	
			ART UNIT 1709	PAPER NUMBER
			MAIL DATE 08/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/516,956

Applicant(s)

KOYAMA ET AL.

Examiner

Ellen S. Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/3/2004
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3-6 rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimatsu (US 5106943).

Applicant claims a container that has at least one gas barrier layer made of an epoxy resin cured product that is formed by curing an epoxy resin composition that contains an epoxy resin and an epoxy resin-curing agent which has a structure as xylylenediamine.

Yoshimatsu discloses a resin composition comprising an isocyanurate ring-containing polyisocyanate, an epoxy compound and an aromatic polyamine (col. 2 lines 39-42). This further includes a shaped article manufactured by curing of the disclosed resin composition (col. 2 lines 43-44). The aromatic polyamine disclosed includes m-xylylenediamine and p-xylylenediamine (col. 6

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line 34). The ratio of epoxy compound relative to the said primer is 5 to 80 percent by weight (col. 5 lines 8-9).

Yoshimatsu discloses epoxy compounds can be derived from glycidyl ether, glycidyl ester and glycidylamine (col. 3 lines 54-55). These compounds include bisphenol A epoxy resin, phenol novolac epoxy resin, bisphenol F epoxy resin, triglycidyl-p-aminophenol, tetraglycidyl-diaminodiphenylmethane, and tetraglycidyl-m-xylylenediamine (col. 3 lines 63-68 col. 4 lines 1-19).

Yoshimatsu discloses one of the preferred epoxy compounds is bisphenol F epoxy resin (col. 3 lines 58-61).

Yoshimatsu discloses resin composition may contain a curing catalyst, which can include organic acids (col. 5 line 60). Examiner notes that an organic acid is an organic compound with acidic properties. It is known to one of ordinary skill in the art that most common organic acids are the carboxylic acids. The carboxylic acids listed are adipic acid, salicylic acid, and benzoic acid. These carboxylic acids contain at least one acyl group. Salicylic acid and benzoic acid both C₁ to C₈ monocarboxylic acids (col. 7 lines 7-10).

2. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al. (US 2002/0146527).

Kikuchi et al. disclose a packaging material having an oxygen-absorbing layer of thermoplastic resin (abstract). This includes container like bottles and cups [0002]. The thermosetting adhesive resin disclosed is epoxy [0124]. A polyamide resin is used in the thermoplastic resin that serves as a base material

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of the oxygen-absorbing layer [0059]. The desired polyamides to use are xylylene group-containing polyamides [0064]. The concentration is not smaller than 40 percent by weight and, more preferably, not smaller than 50 [0066].

Kikuchi et al. disclose in example 4 a container where the amount of oxygen permeation into the container was measured after preserved at 30°C and a relative humidity of 80% [0211]. The oxygen permeability was 1.896 cc/cup (table 1).

Kikuchi et al. disclose a polyamide resin is favorably used as a thermoplastic resin that serves as a base material of the oxygen-absorbing layer [0059]. The polyamide resin can be an aliphatic, an alicyclic, or a semi-aromatic polyamide derived from a dicarboxylic acid component and a diamine component [0060]. The examples of the diamine components that are listed read on the epoxy resins containing glycidylamine moieties in Applicants claim 3 [0062-0064].

Kikuchi et al. disclose that it is preferably to use a diamine component comprising chiefly of an m-xylylenediamine [0064].

Kikuchi et al. disclose that in the oxygen-absorbing layer resin be blended with an activating agent. The activating agent include ethylene-methacrylic acid copolymer, and hydroxyl group- and/or carboxyl group-containing polymers [0103].

Kikuchi et al. disclose the laminated-layer structure with the oxygen-absorbing layer being expressed as OAR and the flexible polymer layer is polyethylene terephthalate being expressed as PET [0115]. Examiner notes that

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it is known to one of ordinary skill in the art that PET is a known flexible polymer.

The different layer structures are shown in [0116-0121].

Kikuchi et al. disclose that the thermoplastic resin contains acrylic acid-grafted polyolefin, copolymerized polyester, copolymerized thermoplastic resin [0123] and a polyamide resin [0059].

Kikuchi et al. disclose the polyamide resin can be an aliphatic, an alicyclic, or a semi-aromatic polyamide derived from a dicarboxylic acid component and a diamine component [0060]. The preferred diamine component comprises chiefly of an m-xylylenediamine and/or a p-xylylenediamine [0064].

Kikuchi et al. disclose that a film, sheet or tube is formed by melt-kneading the disclosed resin composition [0128]. The molded article formed from the disclosed resin composition can also assume the shape of bottles [0131].

Examiner considers a bottle to be a hollow container along with a tube.

Kikuchi et al. disclose that it is desired that the oxygen-absorbing layer is formed on the inner side of the outer surface of the container, and is provided on the outer side of the inner surface of the container [0109]. It is desired that the thickness of the oxygen-absorbing intermediate layer is from 0.5 to 95% of the whole thickness [0126]. Thus, the Examiner believes that this would cover the range that is set forth in Applicants application.

Examiner note: Claims 14-19 are repeat dependent claims of the previous claims set forth in Applicants application. The difference in these claims is that they depend on different claims. Kikuchi et al. discloses all previous

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material in claims 1-12. Thus, claims 14-19 would also be rejected based on the argument set forth above by the examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen S. Wood whose telephone number is 571-270-3450. The examiner can normally be reached on Monday-Thursday 7:30am-5:00pm EST Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D. LAWRENCE TARAZANO
PRIMARY EXAMINER



Ellen S Wood
Examiner

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